

Theme 4: Women and Youth as Drivers in Transformation

Gender equality and women's empowerment are considered by the GEF as essential elements for achieving sustainable development and global environmental benefits. This is because for GEF projects to effectively achieve global environmental objectives, project interventions should account for gender differences in how resources are used and managed, women's roles as primary land and resource manager, differing conservation incentives faced by women and men, and other gender-related issues¹.

The *GEF Policy on Gender Mainstreaming*² (PGM), adopted in 2011, recognizes that gender equity and equality is an important consideration when financing projects that address global environmental issues, because gender relations, roles and responsibilities exercise important influence on women and men's access to and control over environmental resources and the goods and services they provide. The Fifth Overall Performance Study (OPS5) considered gender as a highly important dimension, 'as it is one of the main avenues to achieve behavior change that will lead to broader adoption of sustainable solutions to global environmental problems³'. This is true for all GEF interventions and types of projects. Particularly, gender is one of the main criteria considered for the approval of Small Grants Programme (SGP) projects.

The Policy Recommendations for GEF-6 are based on six key areas targeted towards delivering higher impacts in an effective and efficient manner for the GEF as a whole. One of the areas is *Enhancing Gender Mainstreaming*. Efforts will be focused on developing a Gender Plan of Action to further integrate gender consideration in GEF operations. The Plan, to be developed through a multi-stakeholder consultation process, will provide a concrete road map to implement the PGM in GEF-6.

Furthermore, young people can play an active role in protecting and improving the environment. They can change their lifestyle and how it affects the environment. The GEF SGP sees the great value in investing in children and youth, who have a unique capacity to shape a sustainable future. This is because engaging youth in environmental protection not only creates direct impact on changing youth behaviors and attitudes, but also influence their families and communities. Also, the SGP engages youth to enhance their professional skills and provide alternative livelihoods that contribute to global environmental achievements.

The following projects showcase examples of actions focused on empowering women and implemented by women and youth as drivers in transformation.

¹ GEF (2013) Mainstreaming Gender at the GEF

² GEF (2011) <http://www.thegef.org/gef/policy/gender>

³ OPS5 (2013) At Crossroads for Higher Impact

Lower Usuthu Smallholder Irrigation Project	
Country	Swaziland
Focal Area	Multi Focal Areas (Land Degradation, Biodiversity and Climate Change)
Project type	FSP
Allocation	\$2,072,730 (GEF); \$12,273,900 (cofinancing)
GEF Agency	International Fund for Agricultural Development (IFAD)
Executing partner	Ministry of Agriculture and Cooperatives
Type of partner	Government agency
Approval	May, 2009
Status	Under implementation

Project Overview

About 76 percent of the population in Swaziland lives in rural areas, where most rural households survive on subsistence agriculture. Through an IFAD investment, a large-scale irrigation system is being installed in the Lower Usuthu River Basin –a land degradation hotspot, in the South-East area of the country– to meet the farmers’ demand for water in a cost-efficient way. The irrigation system enabled smallholders to produce high-value crops. However, other factors are threatening the agricultural productive system, including declining soil quality due to continuous cropping, rangeland degradation as a result of overgrazing which adds on to the already existing land degradation, changes in rainfall and water availability due to climate change and land use changes. Moreover, Swaziland lacks a comprehensive and integrated national land management policy. To address these issues, and in the framework of the Strategic Investment Program for Sustainable Land Management in Sub-Saharan Africa, the Ministry of Agriculture and Cooperatives is implementing this project to reduce land degradation, biodiversity loss and mitigate climate change through the application of sustainable land management (SLM) practices, by:

1. Promoting SLM approach at the national level. Activities are aimed at promoting the development and mainstreaming of a harmonised, cross-sectoral approach to SLM at the national level, to overcome the national level barriers and improving the legal and policy framework for SLM.
2. Supporting local communities to plan and sustainably manage land resources. Activities are focused on developing sustainable land management plans, improving local community management of rangelands and livestock systems, promoting sustainable land management approaches in smallholder cropping areas, promoting fuelwood efficiency, and setting up conservation areas to promote locally important species and ecosystems.
3. Promoting alternative livelihoods, focusing on improving livelihood opportunities, resilience and food security of rural communities by applying SLM and conservation measures to generate additional sources of income to alleviate poverty and reduce pressure on natural resources.
4. Disseminating project lessons and results, to promote the adoption of SLM approaches to farmers and other stakeholders.

Partnerships

To identify the particular needs of the communities, three workshops were held during the project preparation stage. Communities' concerns, particularly environmental concerns, were fully incorporated into the design of the project. The Ministry of Agriculture and Cooperatives also coordinated several stakeholder consultations, which resulted in the following alliances for the implementation of the project:

- **Local Communities.** Subsistence arable farmers and agro pastoralists in the Mphumakudze, Lesibovu, Gamedze, Luhlanyeni, Mamisa, Vikizijla and Hlutse rural communities are actively participating in the activities. Through participatory approaches, demonstration farms, Farmer Field Schools and farmer exchange visits, farmers and agro pastoralists are being empowered and trained on development planning, rangeland management, afforestation and forest conservation to increase tree cover, permaculture gardening and establishment of backyard gardens, conservation agriculture and establishment of communal gardens, fuel wood efficiency, rehabilitation and re-use of degraded lands, and Integrated Water Resources Management. In addition, community livelihoods are being improved through coaching and mentoring on the promotion of sustainable and efficient community livestock production, including beef cattle, milk production, indigenous poultry production and bee keeping, honey production and sale. About 80 percent of participants in these capacity development activities are women.
- **Civil society organizations.** International, national and local CSOs already active in the Lower Usuthu region are directly engaging with communities through various activities, including environmental awareness, soil management, water management, protection and improvement of grazing lands, sustainable crop production. Collaboration among CSOs is also being employed through providing training of trainers and knowledge sharing to scale-up SLM in other regions of the country. Main partners include Women in Development, Yong Nawe, the Swaziland Teachers Association, the Swaziland Farmer Development Foundation, the Renewable Energy Association of Swaziland, Community Dynamics, Word Vision International and the Lutheran Development Service.
- **Government Agencies.** An SLM platform is being organized to facilitate inter-sectoral coordination aimed at reviewing, developing and integrating policies, strategies and action plans for SLM. Key partners include the Land Use Planning, Land Development, Range Management and Forestry departments of the Ministry of Agriculture and Cooperatives; the Swaziland Environment Authority at the Ministry of Tourism, Environment & Communications; the National Meteorological Service; the Swaziland Water and Agricultural Development Enterprise Limited within the Ministry of Natural Resources and Energy; and the Ministry of Regional Development and Youth Affairs.

Developing a Bamboo Bike Factory as a Social Enterprise	
Country	Ghana
Focal Area	Climate Change
Project type	SGP
Allocation	\$30,200 (GEF SGP); \$49,000 (cofinancing)
Executing partner	Bright Generation Community Foundation
Type of partner	Community-based organization
Status	Completed (Implemented: February 2012 – May 2013)

Project Overview

The Bright Generation Community Foundation developed bamboo bicycles as a non-polluting mode of alternative transport. The goal of the project was to meet the growing mobility needs in the rural Achiase community while also addressing climate change, environmental degradation, poverty, and high unemployment among youth. Both women-led organizations were also interested in refining the bike production technology to meet international standards for export.

Widespread uptake of bamboo cycles could significantly contribute to climate change mitigation as the construction of bamboo bikes is much less energy-intensive than the production of steel bikes. During the production of a steel frame, about 5 kg of carbon dioxide (CO₂) are emitted, and while bamboo can be directly recycled, steel requires additional energy inputs for recycling. In addition, bamboo forests absorb CO₂ and generate up to 35 percent more oxygen than an equivalent stand of trees.

One of the key components of the project, which sought to primarily target young women, was to help the women-led youth organization develop their sustainable transport concept into a viable social enterprise. With SGP's support, the organization developed a business plan, established a bike factory and training center, and created a bamboo plantation.

Impacts

In collaboration with engineers from China, the pilot project provided refined training in the construction and maintenance of bamboo bikes for ten rural, unemployed youth in Achiase, providing sustainable employment opportunities at a higher wage than most other enterprises in the area. Subsequently, the initiative has also created jobs and incomes along the value chain for the suppliers of bamboo and the distributors of the bicycles. Since project conclusion, the training center has continued to provide workshops and training on bamboo bike production.

The organization also established a 2.5 ha bamboo plantation and nursery with the technical support of the International Network for Bamboo and Rattan (INBAR) and the Ghana Forest Research Institute. The plantation, which has the capacity to produce 10,000 bamboo seedlings, not only ensures continuous, sustainable supply of native bamboo, but also helps rehabilitate the community's dwindling forests. To start, 1,500 bamboo seedlings were purchased and transplanted by 25 youth, who received technical guidance on planting and maintenance of bamboo along the way.

The project has since gained the support of several organizations. The District Assembly and the Newmont Mining Company in Ghana are promoting the technology, while the Clinton Global Initiative University is providing technical support to upscale the pilot initiative for the international market. The Ghana Bamboo Bike Initiative is interested in exporting its

environmentally-friendly bikes to Europe and the United States –a move that could further benefit climate change mitigation and youth employment at a grander scale.

Awards: The innovative approach of this social enterprise project has already won several awards, including the 2010 UNEP SEED Award, the 2012 Samsung Generations for Peace Award and the 2012 UN Habitat/Dubai International Best Practice Award. Most recently, the Ghana Bamboo Bike Initiative was selected for UNFCCC’s 2013 Momentum of Change Lighthouse Activities, which honors the most innovative initiatives combating climate change. Bernice Dapaah, the leader of the Ghana Bamboo Bike Initiative received recognition for her effort to promote youth, especially young women, in sustainable enterprise development. She has been honored as a 2014 Young Global Leader of the World Economic Forum.

The Mekhe Solar Cooker Project	
Country	Senegal
Focal Area	Climate Change
Project type	SGP
Allocation	\$49,808 (GEF SGP); \$35,393 (cofinancing)
Executing partner	Ndiop Women’s Association
Type of partner	Women’s organization
Status	Completed (Implemented: October 2004 – September 2006)

Project Overview

The successive droughts of the 1970s and 1980s, in addition to population growth, led populations of fragile areas like Mekhe to rely heavily on natural resources for firewood, charcoal and livestock survival (e.g., cattle breeding), thereby causing deforestation and forest degradation. According to a survey done in 2003 by the research team from the Centre for Resources for the Emergence of Social Participation (CRESP), consumption of firewood per family results in four hectares of deforestation annually. Due to poverty, 85 percent of the energy used for cooking comes primarily from wood. The use of wood for cooking not only causes environmental damage, but also has health implications, specifically chronic respiratory problems.

The Senegalese government, together with development partners including UNDP and UNEP, began a series of national and regional initiatives for the sustainable management of the Sahelian ecosystem. This policy is based on an approach that integrates many sectors under the responsibility of the local population. Mekhe is situated 130 km from Dakar and has a population of 15,291. It consists of 1,699 households divided into 1,241 compounds. There is a slight predominance of women (8,181) over men (7,101). For this reason, the solar cooker initiative was conceived in the area as the target actors were primarily women. This project aims to create a model for the sustainable use of renewable energy and regeneration of plant resources. The overall goal is to preserve vegetation through reforestation and the use of solar energy as an alternative to firewood. Project implementation relied on the availability, willingness, participation and commitment of its members, particularly women. The problems were clearly identified: deforestation, use of inappropriate energy sources (as financial difficulties make it difficult to access other sources), and insufficient capacity to make informed decisions. Mr. Abdoulaye Toure, the project’s Technical Advisor, introduced the concept of the solar cooker to the community. The model uses materials produced locally. Villagers were trained to produce the

cooker, enabling availability and access, and guaranteeing ownership and sustainability. There were also efforts to build capacity for the promotion and marketing of solar cookers. To empower women, 10 women were trained to use the solar cooker and five were trained as trainers; the project also identified 30 local recipes that can be easily prepared with the cooker. This capacity building exercise allowed the women to be better prepared to use and promote this technology. Multiple uses of the ovens allowed households to save money and to improve cooking conditions: no smoke and less time in the kitchen. With a monitoring system in place, project leaders provided guidance and assistance to maintain the solar cooker. During project implementation, women were also involved in tree planting and community reforestation, which paved the way for the creation of the Centre for Women's Development of Tivaouane. The success of this project was due to the following activities:

1. Raising awareness about the use and promotion of renewable sources
2. Manufacture and marketing of solar cookers
3. Establishment of a nursery
4. Regeneration of vegetation by reforestation
5. Capacity building of grassroots actors
6. Cost-benefit analysis of the use of the solar cooker vs. use of coal and firewood
7. Establishment of a micro-credit scheme to finance activities of Women

Impacts

This project encourages women of Ndiop to take advantage of the solar cookers as an alternative to firewood and to lead in effort to preserve vegetation. Specific impacts include:

- **Environmental Impact.** In August 2006, a mid-term survey was conducted with the first group of 44 families that had received the solar ovens on May. The evaluation survey asked families to recall the amounts of different fuel sources that they had used before they received their ovens and to report the amounts of these same fuels that they still were using, in addition to their ovens. The evaluation found that each family's cooker saved an average 3 metric tones (MT) of equivalent carbon dioxide (CO₂e), which is the equivalent to 12 trees per year. The first green tags sold by this project in the informal voluntary carbon market enabled the construction of 10 additional solar cookers. The second survey conducted in April 2007 included reliable data from the first 44 families and a second group of 49 families who received their ovens between August 2006 and April 2007. In this assessment, given the imperfect quality and incomplete use of the early ovens, the calculation was extremely conservative and was based on the assumption that each oven received only one year of use on average (although, in fact, a well-constructed and managed oven lasts for eight years). The assessment concluded that there was an annual median emissions saving of 4 MT per oven. However, if each oven lasts for at least two years, the amount would be 8 MT per oven. In addition, the community reforestation programme established a nursery with the support of the local technical forestry service. 3,132 forest trees and 719 fruit trees were planted.
- **Socio-Economic Impact.** Those who use solar cookers are families who do not have access to government subsidized butane gas, those who live in rural areas, or those who do not have enough money to purchase butane. The use of solar cookers saved the women time from gathering firewood from the forest. It also decreased physical labour, reduced health risks caused by smoke exposure, and generated additional income through the sale of baked goods and other food products. The solar cooker project created 10 jobs, built the capacity of 105 women and 22 men, and placed 30 facilitators; 700 people, including two government ministers, visited the site.

- **Policy Impact.** The Minister of Biofuels, Renewable Energy and Scientific Research visited the project and briefed the President during a meeting of the Council of Ministers. The President instructed the Minister to mobilize resources to make the solar cooker project a platform for the research, production and use of solar energy. SGP had a meeting with the Ministry to discuss integration and replication at the national level. The Department of Renewable Energies sponsored two training workshops in Diourbel and Sedhiou to build and use solar cookers. In a particularly noteworthy development, a member of the board of the Women's Association became a town councilor.

Replication and Upscaling. The success of this model, as demonstrated in over 50 villages in Senegal, Mauritania and Burkina Faso, led to a partnership among the ecovillage of Ngaye, SGP, CRESO NGO and GEN Senegal (the first African national ecovillage network that seeks to improve and protect its 45-member village, striving for sustainability). Knowledge materials were developed during project implementation, including a manual on solar cookers, in partnership with the University of Aval; a DVD movie (in French and English), *Women and Climate Change: The Solar Oven, A Priority for Sustainable Management of Forest Resources in the Sahel*; and an article, "Solar Cooking to Improve the Environment", in *Women & Environments International Magazine*, No. 74/75, Spring/Summer 2007, pp. 15-17. Some of these materials were used in two training workshops, coordinated with the support from the Ministry of Renewable Energies to build and use the solar cookers in Diourbel and Sédhiou. Furthermore, the project is being replicated in eight other communities in the country.

Awards and Recognition. The neighborhood of Ndiop is now registered as an 'ecovillage', a member of the Senegal Ecovillage Network and Global Ecovillage Network (GEN).

Reducing the Carbon Footprint	
Country	China
Focal Area	Climate Change
Project type	SGP
Allocation	\$49,927 (GEF SGP); \$32,687 (cofinancing)
Executing partner	All China Environment Federation
Type of partner	Non-governmental organization
Status	Completed (Implemented: March 2010 – March 2011)

Project Overview

The project of the All China Environment Federation aimed to minimize the power consumption in the Wangjing community of China involving 10,000 households (30,000 persons) to influence Beijing residents to address climate change. For this purpose, the project raised awareness on climate change and promoted low carbon consumer behaviors and an energy-saving lifestyle. One of the main elements of the project was to conduct research on the incentives of energy conservation for communities in Beijing.

The core of this research project was youth. The project recruited 15 university student volunteers from 8 universities who received training on energy efficiency saving measures. One of the main tasks of the university student volunteers' was to conduct door-to-door interviews on energy-saving awareness, household power consumption habits and willingness to address climate change. The other key task was to provide hands-on education on energy-saving tips to the

households; install power utilization monitoring equipment in households; and to record and collect data of household power consumption.

Impacts

After just one year of implementation, the project effectively raised the awareness of 30,000 people living in the Wangjing Community on energy conservation, carbon reduction and climate change. In the summer during the project cycle (May–September 2010), the average power consumption among 10,000 houses in Wangjing community dropped by 1 kWh or more per household, which contributed to the reduction of about 50 tons of CO₂ emissions.

Additional impacts on Beijing residents have also been observed, as residents now spontaneously take energy-saving measures in their daily life and select energy-efficient products when they purchase home appliances. A publication entitled “The Studies on the Incentives of Energy Conservation & Carbon Reduction in Communities in Beijing” was completed and published in China Environment Daily, which has been submitted to the Ministry of Environmental Protection, the National Development and Reform Commission, Beijing Municipal Government and other relevant authorities.

Energy Marathon: Mobilizing Students for Energy Efficiency	
Country	Belarus
Focal Area	Climate Change
Project type	SGP
Allocation	\$46,070 (GEF SGP); \$46,070 (cofinancing)
Executing partner	Public Association Ecoworld Fund (EKOMIR)
Type of partner	Non-governmental organization
Status	Completed (Implemented: January 2008 – April 2009)

Project Overview

To support the achievement of the commitments of Belarus to the UN Framework Convention on Climate Change, in 2008, Ecoworld Fund (EKOMIR), received the support of SGP to launch a state-wide Energy Marathon mobilizing youth to promote energy efficiency in the secondary school sector. The Ministry of Education and the Department of Energy Efficiency joined the initiative and became an active partner. The goal of the competition among schools and students was to raise awareness on energy conservation and climate change, promote the application of innovative approaches and identify best practices on energy saving. To ensure high participation, EKOMIR reached out to 2,800 secondary schools by streaming promotional videos on TV channels across the country and providing guidelines. As a result, the Energy Marathon was a huge success.

Impacts

More than 100,000 enthusiastic students and teachers participated in energy conservation activities, including the development of innovative energy saving measures and the creation of educational material such as videos, flyers and posters. At the end, a jury composed of the Ministry of Education, the Department of Energy Efficiency and the EKOMIR Fund selected the winners with the best ideas on practical energy saving measures, educational methods for energy conservation, best energy saving center, among other award categories on energy efficiency and

climate change. The winners received diplomas and prizes. During the Energy Saving Festivals organized as part of the Energy Marathon in all the districts of Belarus, secondary school teachers had the opportunity to exchange experiences and learn good practices in environmental education. As a result of this project, schools are using teaching methodologies on energy efficiency on a regular basis; more than 12,000 schoolchildren have become active champions for energy conscious behavior; and the secondary education sector achieved 62 tons in avoided CO₂ emissions. Due to its overwhelming success, the Ministry of Education and the Department of Energy Efficiency decided to continue the practice. The Energy Marathon has since been held on an annual basis.